

CLAIMS:

1. An apparatus which comprises two components which are displaceable relative to one another, a position visualization unit which is provided on one component of the apparatus, or on a part which is connected thereto, an image acquisition unit which is provided on the other component of the apparatus, or to a part which is connected thereto, in order to acquire images of a segment of the position visualization unit which changes due to a relative motion between the components of the apparatus, and an evaluation unit for extracting position information from the images.
2. An apparatus as claimed in claim 1, comprising a reference mark which is visible in the images and is attached to the image acquisition unit.
3. An apparatus as claimed in claim 1, comprising a position visualization unit which is constructed in the form of a measuring tape.
4. An apparatus as claimed in claim 1, in which a relative motion occurs which extends along a substantially straight line, and which comprises a position visualization unit which is arranged parallel to said straight line.
5. An apparatus as claimed in claim 1, comprising a position visualization unit which is arranged along a circular line, one of the components of the apparatus being journaled so as to be rotatable.
6. An apparatus as claimed in claim 1, comprising a position visualization unit on a tape-like carrier.
7. An apparatus as claimed in claim 6, comprising a tape-like carrier which is connected on the one side to the one component of the apparatus and on the other side to a roller which is mounted on the other component of the apparatus, said carrier being wound onto or unwound from the roller as a result of the relative motion.

8. An apparatus as claimed in claim 1, comprising illumination means for illuminating the acquisition zone.

5 9. An apparatus as claimed in claim 1, comprising an image acquisition unit in the form of a CCD camera.

10. An X-ray apparatus which comprises two components which are displaceable relative to one another, a position visualization unit which is provided on one component of
10 the apparatus, or on a part which is connected thereto, an image acquisition unit which is provided on the second component of the apparatus, or on a part which is connected thereto, in order to acquire images of a segment of the position visualization unit which changes due to the motion, and an evaluation unit for extracting position information from the images.

15 11. An X-ray apparatus as claimed in claim 10, characterized in that an X-ray source is arranged on the one component or the other component of the apparatus.